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THE ECONOMIC IMPACT

OF LOGAN INTERNATIONAL AIRPORT

Highlights

The activities at Logan International Airport generate more than \$2.94 billion for Massachusetts and New England every year, or \$8,060,000 every day.

On An Annual Basis:

- More than 23.4 million passengers use Logan Airport:
 - \$1.33 billion is generated by tourist and business visitors who use Logan Airport;
 - \$214.5 million is earned from ticket sales to New England residents by local travel agencies.
- \$107.2 million in airport-related taxes, tolls and fares is paid to the Commonwealth of Massachusetts, local governments, the Massachusetts Turnpike Authority and Massachusetts Bay Transit Authority. Of the local governments, the City of Boston reaps the greatest benefit, receiving more than \$40 million of this total.
- \$566.6 million is earned in salaries and benefits by the estimated 16,000 employees at Logan Airport, after paying Massachusetts personal income taxes.
- \$414.5 million in additional income and jobs is created by airport employees, who spend much of their earnings locally.
- \$226.9 million is spent on purchases of local supplies and services by airport-based businesses.
- \$83.2 million is earned by private companies providing local ground transportation for passengers, freight and aviation fuel.

An Economic Catalyst For New England

Logan International Airport is the eleventh busiest airport in the United States in terms of passenger service, and the only hub airport in the six-state New England region with a full range of aviation services including passenger and cargo service to international and domestic destinations. In addition to the 49 airlines at Logan, approximately 100 aviation-related firms and businesses providing airport support services are located at the airport. In total, Logan employs 16,000 people, making Logan both the gateway to New England and a major contributor to the economic health of the greater Boston area and the region.

Logan's presence pays rich dividends to Massachusetts and New England. Airport jobs provide economic activity through the "multiplier" effect, as those pay checks are spent and pass through different hands. Purchases by airport businesses of local materials and services, tax revenue, and travelers' expenditures (including lodging, entertainment, food, retail trade, tolls and fares) add a great deal more. When you add it all up, the direct and indirect benefits of Logan Airport to the Massachusetts economy come to an astounding \$2.94 billion every year—or almost 3 percent of the gross state product.

The Airport's Business

Logan served 23.4 million passengers in 1987, or 2.4 percent of the total passengers carried by domestic airlines in the U.S. that year. The airport also plays an important role as a center for processing domestic and international air cargo, ranking twelfth in the nation in total air cargo volume in 1987.

The number of passengers traveling through Logan has more than doubled since 1975, up from 10.6 million passengers. The volume of cargo has also shown strong growth since 1975, increasing by 86.4 percent to 584,897,000 pounds in 1987. The volume of mail has increased by 51.6 percent to 121,148,000 pounds over that period.

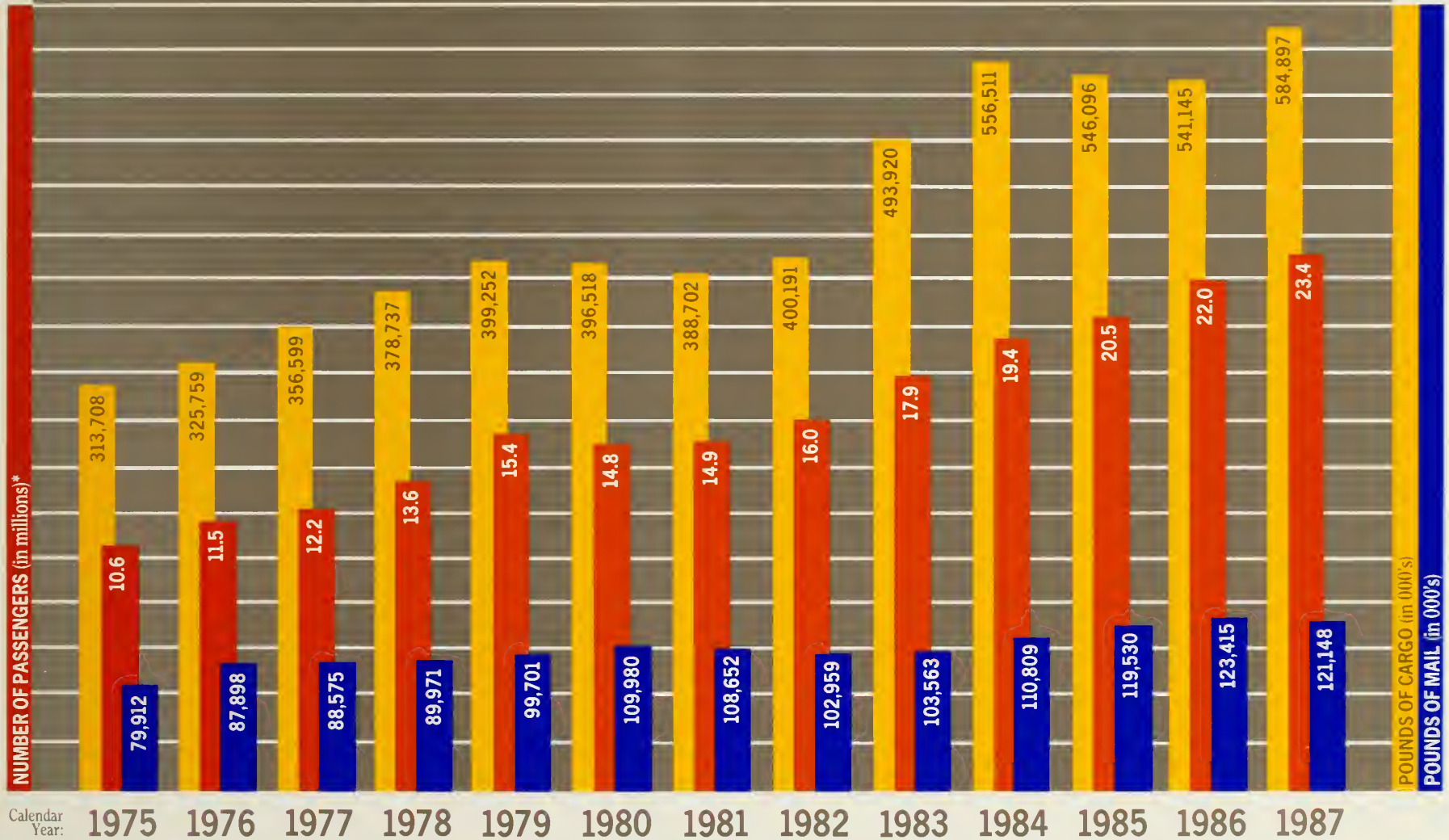
Since 1982, the fastest growth in passenger traffic at Logan has been in international air services. Transatlantic passenger volume increased 43 percent between 1982 and 1987. In addition, international cargo volume increased by nearly 72 percent in that time. It is estimated that in 1987, \$1.56 billion in imports and \$2.96 billion in exports moved via Logan. In addition, \$20.5 billion in products were destined for, or originated from, domestic locations.

The business of providing airport facilities and services to move passengers and cargo via Logan International Airport is not the job of a single entity, but rather consists of a host of services provided by many public agencies and private companies working together.

The Massachusetts Port Authority manages the airport, providing most of Logan's major facilities, coordinating the day-to-day running of the airport, and planning for the airport's future needs. Massport bears the responsibility of financing these facilities and services, and raises the necessary revenue from fees and rentals paid by airport users. Other areas of the Authority's responsibility include the airfield runway and taxiway system, the majority of the airport's five terminal buildings, all of the airport's parking garages and the coordination of ground access services to the airport. Massport also leases land and building space to the airlines, rental car agencies, air freight and cargo handlers and other private companies doing business at the airport. Massport also pays for Troop F of the Massachusetts State Police, which provides 24-hour security at the airport including bomb and drug detection, protection and escort of dignitaries, traffic control, and emergency medical assistance.

The Federal Aviation Administration (FAA) supervises air traffic control and administers federal assistance programs for airport construction, maintenance and improvements. A number of other federal agencies also play a critical role in ensuring the safe, efficient operation of the airport.

Passengers, Air Cargo, and Air Mail



Calendar Year:

*Includes scheduled and non-scheduled commercial passengers, GA, and military

SOURCE: Massachusetts Port Authority Aviation Department Statistics

United States Government Agencies At Logan Airport

Drug Enforcement Administration
FAA Security
FAA (Tower)
FAA (Flight Standards)
Federal Bureau of Investigation
National Weather Service
U.S. Dept. of Agriculture
U.S. Dept. of Customs
U.S. Dept. of Immigration
U.S. Postal Service
USO

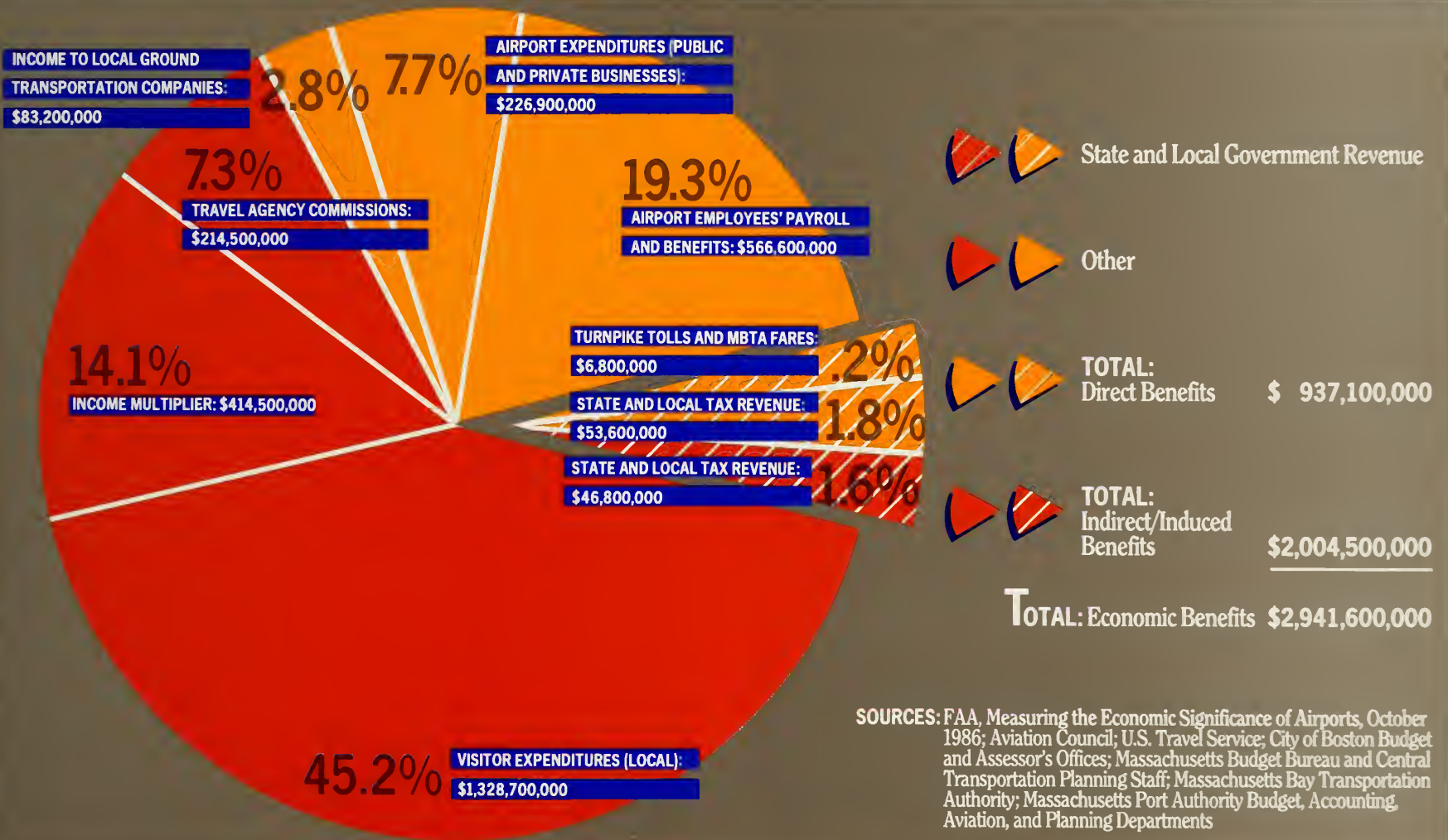
Perhaps the most visible private companies at Logan are the airlines. Fourteen U.S. certified air carriers and sixteen foreign flag carriers currently serve Logan. Commuter service is provided by nine airlines, most of which are owned by or have agreements with certified carriers. Most passenger airlines at the airport provide cargo service in combination with their passenger service, and a few offer all-cargo service. Cargo service at Logan is also provided by ten all-cargo carriers.

Passenger And Cargo Airlines Currently Serving The Airport

U.S. Certified Air Carriers	Foreign Flag Air Carriers	All-Cargo Carriers	Regional and Commuter Airlines
American Airlines	Aer Lingus	Airborne Express	Bar Harbor Airlines (Eastern)
Braniff	Air Atlantic	Burlington Air Express	Brockway Air (Piedmont)
Continental Airlines	Air Canada	CF Air Freight	Business Express (Delta)
Delta Air Lines	Air France	DHL Airways	Catskill Airways
Eastern Airlines	Air Nova	Emery/Purolator	Command Airways (American)
Midway Airlines	Alitalia	Evergreen International	Henson Airlines (Piedmont)
Midwest Express	British Airways	Federal Express	Precision Airlines (Eastern)
Northwest Airlines	British West	Flying Tiger Lines	Pan Am Express (Pan American)
Pan American	Indies Airways	United Parcel Service	Valley Airlines
Pan American Shuttle	El Al Israel Airlines	Zantop International	
Piedmont Airlines	First Air		
Trans World Airlines	Icelandair		
United Airlines	Lufthansa Airlines		
USAir	Sabena		
	Swissair		
	TACV-Cape Verde		
	TAP-Air Portugal		

In addition to airline services, passenger travel is augmented by restaurants and shops in the terminals, a hotel, several banks, a medical and dental office, limousine, bus and taxi service and rental car agencies. Other support services, such as aircraft fueling and baggage handling, are provided by airline service companies at Logan. Trucking companies bring various supplies to the public agencies and private businesses operating at Logan. The collection, shipment and distribution of air cargo is supported by an estimated 75 air cargo forwarders at Logan.

Airport Economic Benefits to Massachusetts in 1987



The Airport Benefits The Massachusetts Economy

The many businesses and agencies at Logan contribute in a variety of ways to the area's economy. Some of these benefits come directly from airport activity and employment, and others come indirectly or are induced as a result of airport activity:

Direct Benefits

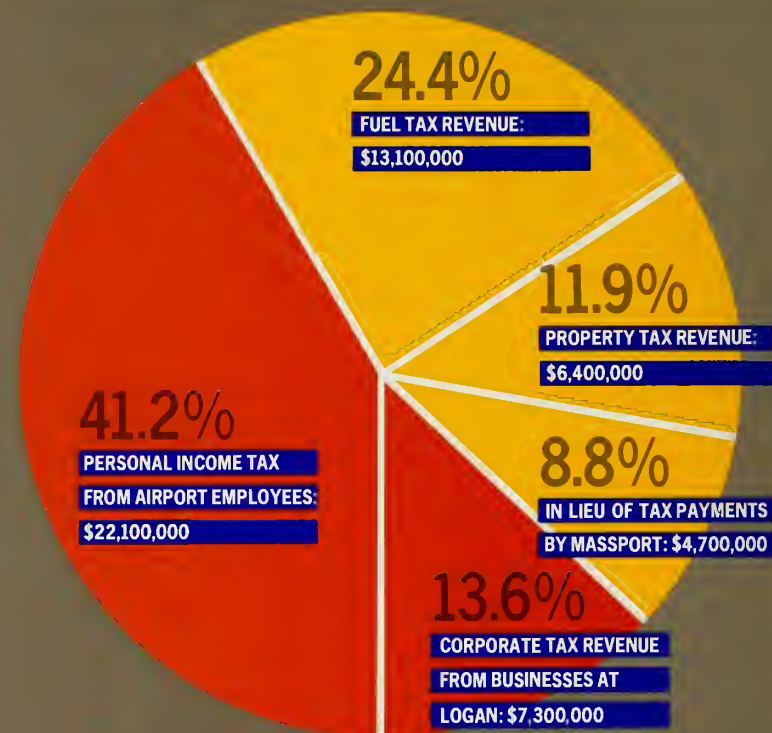
The economic benefits resulting directly from airport activity were estimated at \$937.1 million for 1987, consisting of the following benefits:

Airport Employees' Payroll and Benefits	\$566,600,000
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Approximately 16,000 people were employed at the airport in 1987, with their payroll and benefits valued at a total of \$566.6 million, after Massachusetts personal income taxes. More than half of this amount was contributed by the airlines.

It is estimated that 70 percent of the people who worked at the airport in 1987 were employed on a full-time basis. The remaining 30 percent worked part-time. Using 1987 salary indices of \$32,449 for full-time jobs and \$16,225 for part-time positions in the air services industry, the gross payroll for airport employees was estimated at \$441.5 million. Massachusetts' 5 percent tax on personal income was subtracted from this total and included under state and local tax revenues, leaving a net payroll of \$419.4 million. Airport employees' benefits were estimated at one-third of gross payroll, or \$147.2 million in 1987.

Direct State and Local Tax Revenue



State Tax Revenue Local Tax Revenue

TOTAL: Direct State and Local Tax Revenue \$53,600,000

SOURCES: City of Boston Assessor's Office and Budget Office, Massachusetts Budget Bureau, and Massachusetts Port Authority Budget Office.

State and Local Tax Revenue from Direct Airport Activity \$53,600,000

Airport-related activity contributed \$53.6 million in direct taxes to state and local governments in 1987. The Commonwealth of Massachusetts received \$22.1 million in personal income tax revenue from airport employees, plus an estimated \$7.3 million in corporate tax revenue from businesses at the airport. The City of Boston received \$13.1 million in fuel tax revenue paid by the airlines and \$6.4 million in property taxes levied primarily on aircraft. Massport made in lieu of tax payments totaling \$4.7 million to the cities of Boston and Chelsea and the Town of Winthrop in 1987.

Massachusetts Turnpike Authority Tolls and
Massachusetts Bay Transit Authority Fare Revenue \$6,800,000

The Massachusetts Turnpike Authority and the Massachusetts Bay Transit Authority (MBTA) received a total of \$6.8 million in tunnel tolls and subway transit fares from airport passengers and employees in 1987. More than 8.5 million vehicles traveled through the Sumner Tunnel upon leaving Logan Airport in 1987, generating toll revenue of \$5.1 million for the Turnpike Authority, or just over half of the tunnel's total toll revenue from all traffic.

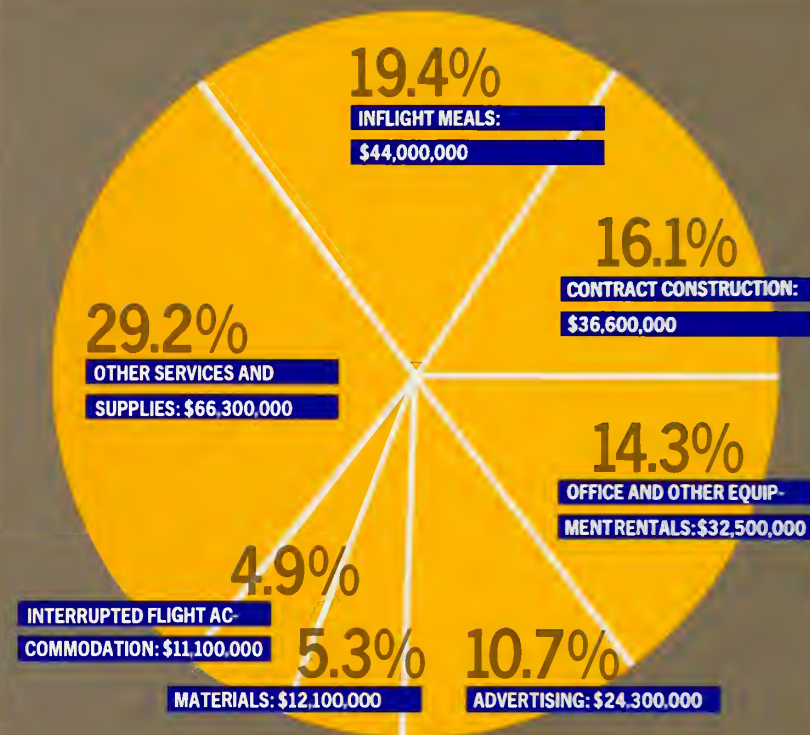
Turnstile counts for the MBTA's airport subway station show that 2.86 million airport passengers and employees traveled to and from Logan by subway in 1987, generating revenue of \$1.7 million in transit fares for the MBTA.

Airport Expenditures (Public and Private Businesses) \$226,900,000

The numerous public agencies and private companies at the airport contributed to the area's economy by purchasing local goods and services including advertising, materials and supplies, in-flight meals, office and other equipment rentals, and services such as utilities and telephone service. The airlines also spent an estimated \$11.1 million to accommodate out-of-town air travelers whose flights were cancelled due to bad weather and other interruptions in flight schedules. The Authority, the airlines and other private businesses located at the airport spent an additional \$36.6 million in 1987 on building renovations, construction and other capital improvements at Logan. Spending on these items was estimated to total \$226.9 million in 1987.

Airport Expenditures

(PUBLIC AND PRIVATE BUSINESSES)



TOTAL: Purchases by public agencies and private companies located at the airport **\$226,900,000**

SOURCES: Aviation Council Study, 1985 (inflated using Consumer Price Index) and Massachusetts Port Authority Accounting Department.

Income to Local Ground Transportation Companies \$ 83,200,000

While many passengers still drive to or from Logan Airport in private automobiles, public transit use has been steadily increasing. An estimated 1.32 million people used taxis to get to the airport in 1987, at an average fare of \$14.62 per trip, generating \$19.3 million in taxi fare revenue that year. Limousines and private buses earned an estimated net income of \$200,000 on their airport service in 1987.

Numerous freight forwarders collect air cargo and bring it by truck to Logan airport before it is shipped out by air. They also receive air cargo shipments and distribute the cargo to local destinations. It is estimated that the 75 freight forwarders operating at Logan earned \$48 million in 1987.

Materials and supplies used by the various businesses and agencies at Logan are also trucked to the airport daily. While estimates of local trucking companies' earnings for most of their airport-related services were unavailable for 1987, the local transportation of aircraft fuel was valued at \$15.7 million.

Indirect And Induced Benefits

While some of the economic benefits to Massachusetts and New England come directly from the various types of activity at Logan, other economic benefits come indirectly or are induced as a result of airport activity. In 1987, the indirect and induced economic impacts of the airport amounted to \$2.0 billion, and included the following benefits:

Visitor Expenditures \$1,328,700,000

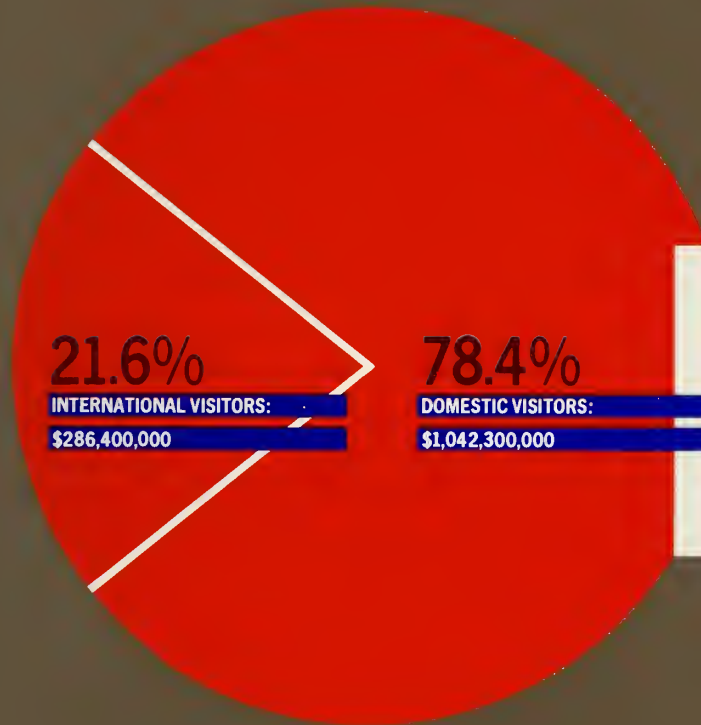
In 1987, Logan served nearly 11.7 million arriving passengers. More than 4.2 million of these passengers were visitors to Massachusetts and New England, with an estimated 3.7 million visitors arriving from out-of-state, and 500,000 visiting from abroad.

Based on an estimated spending of \$280 per trip for domestic visitors and \$592 per trip for international visitors, local expenditures by visitors amounted to nearly \$1.33 billion in 1987. This does not include the estimated \$3.68 billion that Logan's passengers spent on airline tickets in 1987. Most of that revenue covered the airlines' expenses throughout their flight networks, while the remaining profit went to corporations and shareholders in other parts of the United States and other countries.

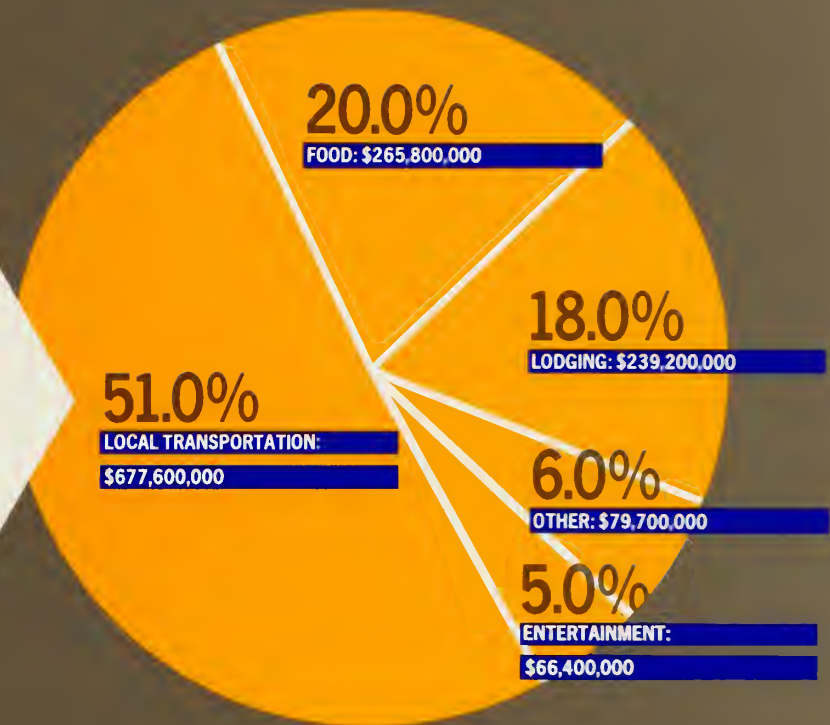
Of the tourists and business visitors traveling to the area by air, 68 percent come for business, and the remaining 33 percent come for pleasure. The patterns of spending by tourists and business visitors create economic benefits in many sectors of the local economy.

Visitor Expenditures (Local)

Domestic vs. International



Distribution of Expenditures



TOTAL: Visitor Expenditures (Local) **\$1,328,700,000**

SOURCE: Based on U.S. Travel Service, Travel in Massachusetts: Economic Impact and Visitor Profile, May 1987 and Massachusetts Port Authority Aviation Department statistics.

State and Local Tax Revenue from Indirect Airport Activity \$46,800,000

Visitors and travel agents contributed an estimated \$46.8 million in tax revenue to state and local governments in 1987. Tourists and business visitors traveling through Logan were estimated to have spent \$16.6 million in Massachusetts taxes on food and entertainment, plus \$23.2 million in hotel room taxes to area cities. Travel agents paid an estimated \$7 million in Massachusetts personal income taxes in 1987.

Travel Agency Commissions \$214,500,000

In addition to employers located at the airport, there were more than 900 travel agencies in Massachusetts employing some 6,000 people in 1987. The 10 percent commissions earned by travel agencies on airline ticket sales to local residents generated \$214.5 million after taxes in 1987. An estimated \$133.3 million of this total went toward employee payrolls, with an additional \$40.0 million spent on employee benefits.

Income Multiplier \$414,500,000

Above and beyond the combined direct and indirect impacts of an airport, additional income is created when employees spend their incomes locally. Most of the take-home pay earned by airport and travel agency employees is spent locally on food, clothing, housing, transportation, medical care, recreation and education. Some of this spending becomes income for local businesses and their employees who provide various goods and services to airport employees. Part of these second-round incomes are also spent locally and thus become income to another set of individuals. As successive rounds of spending occur, additional income is created.

Economists refer to this induced income as the "multiplier effect." While there are endless debates in academic circles about what multiplier to use in estimating induced impacts for a particular area, this study used the guidelines presented in the FAA's handbook on measuring the regional economic significance of airports. Using a multiplier of .75, the induced impacts of Logan were estimated to benefit the area by \$414.5 million in 1987.

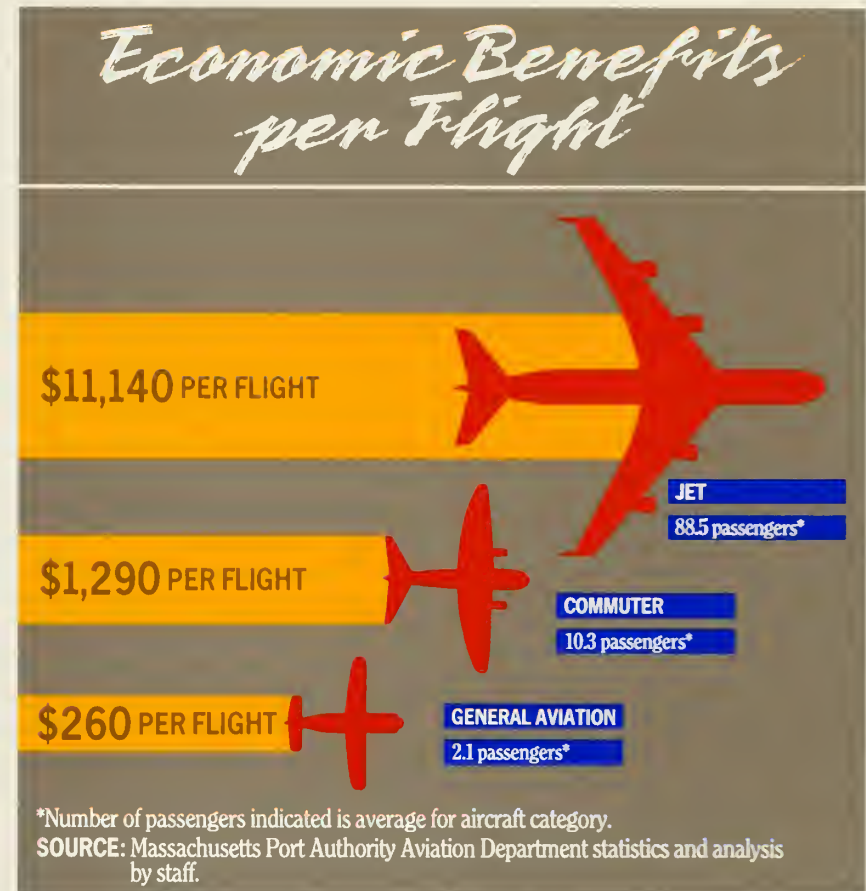
Logan's Economic Benefits

The \$2.94 billion in economic benefits generated by Logan Airport in 1987 translate into \$8,060,000 in benefits every day. Each time an aircraft landed or took off from Logan Airport in 1987, it contributed an average of \$7,089 in economic benefits to the local, state and regional economies. Each passenger traveling through Logan in 1987 generated an average of \$126 in economic benefits to local cities and towns in Massachusetts and New England.

Putting The Benefits In Context

These abstract economic benefit figures may be difficult to understand without relating them more closely to the different types of aircraft activity at Logan. In 1987, Logan had 248,638 air carrier flights in jet aircraft, 124,467 commuter flights, and 41,863 general aviation flights. The economic benefits associated with each flight vary with the size of the aircraft, because the benefits are driven by passenger volumes.

Jet flights at Logan carried an average of 88.5 passengers in 1987, while commuter flights averaged 10.3 passengers and general aviation flights averaged 2.1 passengers. At \$126 per passenger, the economic benefits associated with a jet flight were estimated at \$11,140, followed by \$1,290 for a commuter flight and \$260 per general aviation flight.





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This report was produced by Massport's Public Affairs
and Administration & Finance Departments. We wish
to acknowledge the following for their assistance:

Design: Pam Hess Advertising & Design
Cover Illustration: Bruce Gilfoy
Charts/Graphs: Midnight Oil Studios
Typesetting: Arrow Composition
Printing: Consolidated Printing Inc.

